

Abstract

At least one of the interior wall of a reactor and a susceptor installed in the reactor is coated with an $\text{AlaGa}^b\text{In}^c\text{N}$ ($a+b+c=1$, $a>0$) film, which is heated to about 1000°C or over when a substrate is heated to a predetermined temperature so as to generate the MOCVD reaction between a III raw material gas and a V raw material gas. Therefore, the $\text{AlpGa}^q\text{In}^r\text{N}$ ($p+q+r=1$) compound generated from the raw material gases is deposited on the coated $\text{AlaGa}^b\text{In}^c\text{N}$ ($a+b+c=1$, $a>0$) film, and thus, particles composed of the $\text{AlpGa}^q\text{In}^r\text{N}$ compound are not almost created. As a result, the resulting AlxGayInzN ($x+y+z=1$) film is not affected by the particles, and can have its desirable quality.

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10004345-110201